

California Status Factors

Elcode NF00CHAL23
Gname CHOIROMYCES ALVEOLATUS
Gcomname

Number of Occurrences

B = 6 - 20

Comments A truffle whose fruiting bodies may be up to 5 cm in diam, this species was described from near Alameda, Placer Co., California. Within the range of the northern spotted owl in California two sites are known in Siskiyou Co. Additional sites from California include five to six sites outside the range of the northern spotted owl, this set includes the type locality in Placer Co. (four collections on state land, some of which are the types of other species later synonymized with this one) and one from the Sierra Nevada in Sierra Co. The report from the Sierra Nevada (Anonymous (2) n.d.) may be the one cited by Castellano et al. (1999). The type of *Pierosonia bispora* was collected in Alameda Co., CA , outside the range of the northern spotted owl (Tavares et al. N.D.). Trappe (1975) synonymized *P. bispora* with *C. alveolatus*. I

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments No data available as to whether sites have been visited in different years to see if the fungus is persisting.

Population Size

U = Unknown

Comments This can not be determined; records reflect only species presence.

Range Extent

F = 20,000-200,000 km² (about 8,000-80,000 square miles)

Comments The known sites in California include sites in Sierra Co. (1 site), Placer Co.(at least 4 collections, not sure of number of sites), and Siskiyou Co. (2 sites). It is difficult to reconcile the specimen lists in the ISMS dataset with the reports in Castellano et al. (1999) and other publications. Possible additional sites include the collection from the Arcata Field Office (not mapped to the Arcata BLM district) and the type locality for *Pierosonia bispora*. The type of *Pierosonia bispora* was collected in Alameda Co., CA , outside the range of the northern spotted owl (Tavares et al. N.d.) and does not appear in the range reported by Castellano et al. (1999). Trappe (1975) synonymized *P. bispora* with *C. alveolatus*.

Area of Occupancy

U = Unknown

LU = Unknown

Comments Although the fruiting bodies of this species are relatively large for a truffle and it occurs in areas that have been intensively searched for true and false truffles, relatively few sites for it are known. Short of using molecular tools on soil samples and roots of host plants for mycorrhizal species there is no way to evaluate this factor.

Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

U = Unknown. Long-term trend in population, range, area occupied, or number or condition of occurrences unknown

Comments insufficient data to evaluate this factor; species does not fruit regularly and its distribution is patchy

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

U = Unknown. Short-term trend in population, range, area occupied, and number and condition of occurrences unknown.

Comments insufficient data to evaluate this factor; species does not fruit regularly and its distribution is patchy

Threats

B = Moderate and imminent threat. Threat is moderate to severe and imminent for a significant proportion (20-60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a moderate area, either causing irreversible damage or requiring a long-term recovery.

Scope Moderate **Severity** Moderate **Immediacy** Moderate

Comments Because of the apparently limited number of sites for this species and their occurrence in areas of National Forests not protected from ground disturbing activities, e.g., logging, mining, construction, a significant portion of the known sites could be adversely affected by human activity in the foreseeable future.

Number of Appropriately Protected and Managed Occurrences

A = None. No occurrences appropriately protected and managed

Comments One site in California is in Matrix land the other 4 in the table are completely unprotected.

Intrinsic Vulnerability

B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5-20 years or 2-5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecological community occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10-100 years).

Comments Because of the apparently limited number of sites for this species and the fact that no California localities are protected from ground disturbing activities, this species is very vulnerable. It is probably mycorrhizal with conifers and dependent on them for energy-rich compounds; thus anything that affects the vigor or persistence of the photosynthetic partner may affect the fungus as well. Dispersal likely by small mammals over relatively short distances, population fluctuations in the mammalian population could impact dispersal and spore germination.

Environmental Specificity

B = Narrow. Specialist or community with key requirements common.

Comments It occurs in coniferous forests above 1300 m in elevation.

Other Considerations

This species is known to occur from the Sierra Nevadas N.W. of Lake Tahoe to the Oregon border in mountainous areas. Although this truffle is relatively large, few collections of it are on record. No sites are protected in California.

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Grank S2S3 **Grank Date** 11/24/2002

Reasons

A sizeable truffle, up to 5 cm in diam, is easy, as truffles go, to find; however, only about seven collections of this species have been made since it was described in 1899 (Gilkey 1939). It occupies a narrow band along the spine of the Sierras and Klamaths. No sites are protected in California; if the

BCD Sources

New Sources

Anonymous (2) n.d. Spring Fungi of the Sierra Nevada: Hypogeous Ascomycetes. Retrieved 2002.11 from http://www.mycena.sfsu.edu/courses/ascos2_list.htm

Anonymous (1) n.d. Species List for the Sierra Nevada Field Camp. Retrieved 2002.11.07 from <http://the-city.sfsu.edu/snfc/fungus.htm>

Castellano, M.A., Smith, J.A., O'Dell, T., Cazares, E., and Nugent, S. 1999. Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan. Portland, Oregon: USDA Forest Service, PNWRS PNW-GTR-476.

Fogel, R., and States, J. n.d. Provisional Checklist of hypogeous fungi occurring in the Great Basin and Arizona. Retrieved 2002.11 from <http://www.herb.lsa.umich.edu/gbsurvey/checklist.htm>

Gilkey, H.M. 1939. Tuberales of North America. Oregon State Monogr., Stud. Bot. 1: 1-63.

Tavares, I.I., Seidl, M.T., Tang, H-C. n.d. Type specimens of Lichens and Fungi. Retrieved 2002.11.10 from http://ucjeps.berkeley.edu/fungal_types.htm

Trappe, J.M. 1975. Generic synonyms in the Tuberales. Mycotaxon 2: 109-122.